REMARKS

Reconsideration of all grounds of rejection and allowance of the claims are respectfully requested. Claims 1-5 remain pending herein, wherein claim 1 is an independent claim.

Claim 1 stands rejected under 35 U.S.C. §112, first paragraph, as allegedly being unsupported by the specification. Claims 1- 5 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Evans *et al.* (US 5,822,487) ("Evans") in view of Orita (US Pat Appl Pub. No. 2002/0134114) and Hart Jr. *et al.* (US 5,418,881) ("Hart"). Applicant respectfully traverses these ground of rejections for the reasons indicated herein below.

(1) With regard to the rejection under 35 U.S.C.§112, first paragraph, we note that it is alleged in the Office Action that that there is no explicit support that the second predetermine spin is applied at a changing rate as the second wheel swings between vertical inclination angles. Applicant respectfully disagrees, and notes that the previously cited portions of the specification (at least at page 8, lines 5-12, and page 7, lines 17-19) provide support such that a person of ordinary skill in the art would find the claim to be supported by the specification and fully enabled.

Equation (4) on page 7 of the specification states: $S(z) = \alpha_0 Sin(2\pi f_0) + n\alpha$

wherein, $S(z)$ is a spin function representing the spin period and the spin amplitude given to an optical fiber, where α_0 is the spin amplitude in turns/meter, f_0 is the center frequency, and α indicates an integer-form degree by which the spin function has moved.

While the Examiner agrees in the Office Action that ($n\alpha$) is a constant rate, which corresponds to the first spin-forming step (also see the specification at page 7, lines 17-18).

In addition, Applicant respectfully submits that with regard to the second spin-forming step, as the wheel 530 (shown in FIG. 5) is moving from θ_{s1} to θ_{s2}, the second spin-forming step $\alpha_0 Sin(2\pi f_0)$ (page 9, lines 1-5) would have a changing rate as the wheel moves from θ_{s1} to θ_{s2}. Thus, as the wheel changes vertical inclination angles, the changed vertical angles would have a changing rate that provides a spin-minimizing polarization mode dispersion to the optical fiber.

For at least the above reasons, Applicant respectfully submits that claim 1 is enabled and support by the specification. Reconsideration and withdrawal of this ground of rejection under 35 U.S.C. §112, first paragraph, is respectfully requested.

(2) With regard to the rejection of claims 1-5 under 35 U.S.C. § 103(a) as allegedly being obvious over the combination of Evans *et al.* (U.S. 5,822,487) ("Evans") in view of Orita (U.S. Pat Appl Pub. No. 2002/0134114) and Hart Jr. *et al.* (U.S. 5,418,881) ("Hart"), Applicant respectfully submits that in the presently claimed invention, whereas the first spin-forming step is performed at a constant rate, the second spin-forming step is asymmetrical.

Applicant respectfully requests reconsideration of this ground of rejection in that in the presently claimed invention, by providing a second predetermined spin at a changing rate as the second wheel is swinging between positions provides asymmetrical control, is not disclosed or suggested by the combination of references. Nor would a person of ordinary skill in the art have found it obvious within the ordinary level of skill to swing the second wheel while rotating the second wheel, as recited in claim 1.

In addition, Applicant strongly disagrees in particular that "the act of first and second spin forming steps in view of the combination of Orita, Evans and Hart would inherently result in a spin-minimizing polarization mode dispersion to the optical fiber" as the Examiner responded on page 4, lines 15-18 of the Office Action. The combination of references is silent with regard to the claimed invention, and there is nothing inherent with regard to a constant rate first spin-forming step, and a changing rate spin-forming second step.

One of the advantages of the method as recited in present claim 1 (which is disclosed in the specification at page 8, lines 13-15) is that rotating the second wheel while changing vertical inclination angles provides an asymmetric control of the spin amplitude (specification at page 8, lines 13-15). The rotating of the second wheel while changing the vertical inclination angle in the second spin-forming step provides asymmetric double spins having different spin numbers and different turn-numbers to the optical fiber preform, providing benefits of reduced first mode polarization dispersion and improved second polarization mode dispersion characteristics to the optical fiber (specification at page 9, lines 1-5).

Accordingly, Applicant respectfully submits that the combination of references fails to teach, suggest or provide motivation regarding present claim 1 such that the claims would have been obvious to a person of ordinary skill in the art; nor is the claimed invention reciting features as combined in the claims that would have been within the level of ordinary skill in the art at the time of invention (*KSR International Co. v. Teleflex*

Inc. et al., No. 04-1350, U.S. Supreme Court, decided April 30, 2007).

One of the advantages of the method as recited in present claim 1 (which is disclosed in the specification at page 8, lines 13-15) is that rotating the second wheel while changing vertical inclination angles provides an asymmetric control of the spin amplitude (specification at page 8, lines 13-15). The rotating of the second wheel while moving the vertical inclination angle in the second spin-forming step provides asymmetric double spins having different spin numbers and different turn-numbers to the optical fiber preform, providing benefits of reduced first mode polarization dispersion and improved second polarization mode dispersion characteristics to the optical fiber (specification at page 9, lines 1-5).

Applicant again respectfully submits that the combination of Evans, Orita, and Hart, Jr. would not have rendered any of the present claims to have been obvious to a person of ordinary skill in the art at the time of invention.

Therefore, Applicant respectfully requests reconsideration and withdrawal of this ground of rejection.

The other claims in this application are each dependent from the independent claim 1 discussed above and are therefore believed patentable at least for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of the patentability of each on its own merits is respectfully requested.

For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references. A Notice of Allowance is respectfully requested.

Should the Examiner deem that there are any issues which may be best resolved by telephone, please contact Applicant's undersigned representative at the number listed below.

Respectfully submitted,

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